

**From:** [Granger, Michelle](#)  
**To:** [Hauber, Erin M CIV USARMY CENWK \(USA\)](#)  
**Subject:** RE: Draft RAWP - Pohatcong OU3  
**Date:** Tuesday, October 08, 2019 10:55:00 AM

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Thank you!

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**From:** Hauber, Erin M CIV USARMY CENWK (USA) <Erin.M.Hauber@usace.army.mil>  
**Sent:** Tuesday, October 08, 2019 10:40 AM  
**To:** Granger, Michelle <Granger.Michelle@epa.gov>  
**Subject:** RE: Draft RAWP - Pohatcong OU3

DRAFT RAWP Schedule for reference (they are retaining the same end date of **Dec 2021**):

- Finalize RAWP: 9/30/19
- Mobilize: 11/13/19
- Construction – 12/2019 – 10/2020
  - Drilling: 12/2/19 – 8/7/20
  - TCH Install: 8/7/20-10/6/20
- Operation: 11/12/2020 – 7/26/2021
- Confirmation Sampling: 7/12 – 8/23/21
- Demobilization: 10/1/21 – **12/16/21**

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**From:** Granger, Michelle [<mailto:Granger.Michelle@epa.gov>]

**Sent:** Tuesday, October 8, 2019 7:18 AM

**To:** Hauber, Erin M CIV USARMY CENWK (USA) <[Erin.M.Hauber@usace.army.mil](mailto:Erin.M.Hauber@usace.army.mil)>

**Subject:** [Non-DoD Source] RE: Draft RAWP - Pohatcong OU3

Hi, Erin-

Thank you for the questions! These are great. Yes, I'll be around before our call. Let's talk before for sure.

Best,

Michelle-

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**From:** Hauber, Erin M CIV USARMY CENWK (USA) <[Erin.M.Hauber@usace.army.mil](mailto:Erin.M.Hauber@usace.army.mil)>

**Sent:** Monday, October 07, 2019 5:13 PM

**To:** Granger, Michelle <[Granger.Michelle@epa.gov](mailto:Granger.Michelle@epa.gov)>

**Subject:** RE: Draft RAWP - Pohatcong OU3

Michelle,

I see now that Ramboll is planning to submit a formal Remedial Action Addendum. I'm assuming they mean a RA work plan addendum that we can review prior to their mobilization? I'm available before our 11CT / 12ET call if you'd like to discuss any of these.

Questions that we can work through during tomorrow's call:

- What is the schedule for submittal RAWP Addendum?
- When does the PRP want to mobilize?
- Vendor specific appendices in the RD:
  - Appendix B: Thermal Model Simulation Report
  - Appendix D: Design Drawings
  - Appendix H: OM&M (including vendor safety plan and treatment system sampling)
- Vendor specific appendices in the RAWP:
  - Appendix B: CQAP (some of the checklists)

- Will the same drilling contractor, drilling method, and quality control process for installing angled heaters and vapor extraction points in accordance with the 3D EVS model be retained?
- Wellfield layout and construction layout changes:
  - Will the treatment zone or the heated zone change from what was presented in the 100% RD?
  - Will the spacing and orientation of the boring change?
  - Will each heater well boring also contain a vapor extraction screen that extends across the treatment zone depth interval?
  - Will the temperature of the heaters be monitored?
- One of the comments below mentions reducing the well casing from 9" (Cascade) to 6" (TRS). 100% RD Drawing C103 shows a 3" CS40 heater casing and a 9" boring diameter. RD Appendix H mentions a 2.6" diameter SS liner. Is TRS proposing a reduction to the boring diameter or the heater well casing?
- By changing TCH technologies and removing the residual "cold pin" heating that occurs above the heated zone, is Ramboll/TRS proposing to remove the shallow VEWs, currently screened from 17-27 ft bgs in each heater/VEW boring? The basis for this shallow extraction interval was to both capture any residual VOCs below the cleanup goal but above the treatment zone and serve as an additional catcher's mitt before reaching the subslab system.
- Are there any changes to the indoor air monitoring program?
- Change in sequence of implementation:
  - Is Ramboll/TRS proposing 3 phases of construction and operation?
  - What is the estimated length of each phase of construction and operation and how are the groups segregated?

Statement of qualifications:

- The FlexHeater<sup>SM</sup> heating technology was recently patented by TRS Group. Please provide a project example demonstrating successful heating with this newly patented TCH technology.

Erin

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**From:** Granger, Michelle [<mailto:Granger.Michelle@epa.gov>]

**Sent:** Monday, October 7, 2019 12:29 PM

**To:** Hauber, Erin M CIV USARMY CENWK (USA) <[Erin.M.Hauber@usace.army.mil](mailto:Erin.M.Hauber@usace.army.mil)>

**Subject:** [Non-DoD Source] FW: Draft RAWP - Pohatcong OU3

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**From:** Bruce Scott Kennington <[bkennington@ramboll.com](mailto:bkennington@ramboll.com)>

**Sent:** Monday, October 07, 2019 11:56 AM

**To:** Granger, Michelle <[Granger.Michelle@epa.gov](mailto:Granger.Michelle@epa.gov)>

**Cc:** Hidalgo, Luis (G&I) <[Luis.Hidalgo@riotinto.com](mailto:Luis.Hidalgo@riotinto.com)>; Scott Tarmann <[starmann@ramboll.com](mailto:starmann@ramboll.com)>

**Subject:** RE: Draft RAWP - Pohatcong OU3

Thank you, Michelle.

I confirmed with Luis Hidalgo and Scott Tarmann and a call from 12 noon to 1:00 PM Eastern time will work for us. I will send out a meeting reminder and dial-in information in a separate notice. For discussion on tomorrow's call are the below technical high points involved with the change in the remedial subcontractor for the ISTR Remedial Action, TRS Group, Inc. (TRS).

- **With TRS as the new subcontractor for the ISTR Remedial Action**, no change in the design basis, intent of design, scope or performance of the ISTR Remedial Action.
- **Minor changes in patented TCH wells to be installed.** So as not to infringe on patent of Cascade Thermal, TRS will implement their own patented TCH design, including:

- Greater thermal output from TRS patented TCH well design by eliminating outer steel heater casing and using a smaller diameter (6-inch stainless steel) well casing;
  - Smaller diameter TCH well will facilitate drilling for installation as compared to the larger (9-inch steel) casing in Cascade's patented design;
  - Refinement/adjustment of alignment of TCH well layout (current Design drawing C-102); and
  - Less thermal loss (<10% from the Cascade design) in the upper "cold pin" section of TCH wells eliminating the precautionary need to vent the shallow, upper section of the TCH wells.
- **Change in sequence of implementation.** Due to limited rig and crew availability over the course of the project and to maintain a schedule for RA completion by Dec 2021:
    - Multiple drill rigs (3 or more, if feasible and to maintain safe working environment) drilling one shift per day (2nd shift; 3 PM to 11 PM) for the construction of the system; and
    - Operation of installed TCH wells in three Groups (e.g., starting with Group A heaters, while Group B heaters are being constructed; then operation of Group B heaters while Group C heater construction is completed; and lastly operation of Group C heaters).

We will present details of the above changes in a formal Remedial Action Addendum for submittal to USEPA.

**Bruce S Kennington**

Principal

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**From:** Granger, Michelle <[Granger.Michelle@epa.gov](mailto:Granger.Michelle@epa.gov)>

**Sent:** Monday, October 07, 2019 9:17 AM

**To:** Bruce Scott Kennington <[bkennington@ramboll.com](mailto:bkennington@ramboll.com)>

**Subject:** FW: Draft RAWP - Pohatcong OU3

Hi, Bruce-

The 12 to 1pm slot is preferable for tomorrow. However, I just learned that 1:30pm to 2:30pm tomorrow could work for us too. Please let me know what works for you.

Best,

Michelle-

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**From:** Granger, Michelle

**Sent:** Monday, October 07, 2019 9:31 AM

**To:** Bruce Scott Kennington <[bkennington@ramboll.com](mailto:bkennington@ramboll.com)>

**Subject:** RE: Draft RAWP - Pohatcong OU3

Hi, Bruce-

Would a call tomorrow from 12 to 1pm (EST) work for you and your team?

Best,

Michelle-

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**From:** Bruce Scott Kennington <[bkennington@ramboll.com](mailto:bkennington@ramboll.com)>

**Sent:** Sunday, October 06, 2019 2:27 PM

**To:** Granger, Michelle <[Granger.Michelle@epa.gov](mailto:Granger.Michelle@epa.gov)>

**Subject:** Re: Draft RAWP - Pohatcong OU3

Sounds good. Thank you, Michelle.

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**From:** Granger, Michelle <[Granger.Michelle@epa.gov](mailto:Granger.Michelle@epa.gov)>

**Sent:** Sunday, October 6, 2019 1:07:28 PM

**To:** Bruce Scott Kennington <[bkennington@ramboll.com](mailto:bkennington@ramboll.com)>

**Subject:** RE: Draft RAWP - Pohatcong OU3

Hi, Bruce-

Thank you for your response. I'll check with USACE staff in the morning and get back to you asap. I look forward to receiving your submittals for review.

Best,

Michelle-

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From: Bruce Scott Kennington [[bkennington@ramboll.com](mailto:bkennington@ramboll.com)]

Sent: Friday, October 4, 2019 2:43 PM

To: Granger, Michelle

Subject: RE: Draft RAWP - Pohatcong OU3

Hi, Michelle.

Checking in to see if you may have heard back from Erin, et al regarding availability for a call next week.

I discussed with Luis Hidalgo (Rio Tinto), and we would propose to hold this call on Tuesday afternoon (Oct 8) if it would work for you and the USACE staff. I am preparing a summary of the changes in the plans that would be proposed with this new contractor, TRS Group, Inc. (TRS), and plan to send this to you by Monday so that we can discuss on our call. We will also get to you an Notice of Award to TRS along with their qualifications for review.

Sincerely,

Bruce

Bruce S Kennington

Principal

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From: Granger, Michelle <[Granger.Michelle@epa.gov](mailto:Granger.Michelle@epa.gov)>

Sent: Thursday, October 03, 2019 3:00 PM

To: Bruce Scott Kennington <[bkennington@ramboll.com](mailto:bkennington@ramboll.com)>

Subject: RE: Draft RAWP - Pohatcong OU3

Hi, Bruce-

Thank you for the update. I'm currently checking in with Erin and her team for their availability. I'd like to plan a call for early next week, either Monday or Tuesday. I'll be in touch tomorrow.

Best,  
Michelle-

From: Bruce Scott Kennington <[bkennington@ramboll.com](mailto:bkennington@ramboll.com)<<mailto:bkennington@ramboll.com>>>  
Sent: Wednesday, October 02, 2019 6:25 PM  
To: Granger, Michelle <[Granger.Michelle@epa.gov](mailto:Granger.Michelle@epa.gov)<<mailto:Granger.Michelle@epa.gov>>>  
Cc: Hidalgo, Luis (G&I) <[Luis.Hidalgo@riotinto.com](mailto:Luis.Hidalgo@riotinto.com)<<mailto:Luis.Hidalgo@riotinto.com>>>; Scott Tarmann <[starmann@ramboll.com](mailto:starmann@ramboll.com)<<mailto:starmann@ramboll.com>>>  
Subject: RE: Draft RAWP - Pohatcong OU3

Dear Michelle:

As mentioned in our telephone conversation of Sep 19, following a breakdown in contract negotiations with Cascade, we have secured a different thermal remediation contractor for this work. We will provide a separate notice of award to this new contractor along with a statement of their relevant qualifications to perform this work in separate correspondence. With the change in contractor there are changes in the manner that PPPI would look to implement the remedial action as presented in the USEPA-approved Final (100%) Design Report, and we would like to discuss these proposed changes with you at the earliest convenience.

We are presently reviewing and updating the detailed construction schedule with this new contractor and we expect to get this to you very shortly. This schedule will include mobilization to the Site near the end of October 2019 and commencement of drilling activities before Thanksgiving. Construction work will begin with work performed in two shifts per day. General construction work and receipt of deliveries will be performed on 1st Shift ("Day Shift") from 7 AM to 3 PM. To minimize disruption to Albéa facility personnel due to noise from the drill rigs, drilling work will be performed on 2nd Shift ("Evening Shift") from 3 PM to 11 PM. Work will be performed in stints of 10 days straight followed by 4 days off for the work crews. Accordingly some work would take place over alternating weekends.

The following is provided in regards to your questions on our current QAPP (Rev 9) for the PVGCS Site. Vapor, condensate, and hot soil samples will be submitted to TestAmerica, which is one of the laboratories included in the current QAPP. Tables 3A, 4A, and 5A include the accuracy and precision control limits for water, soil, and vapor samples, respectively, for TestAmerica. Appendix B includes the TestAmerica certifications, Quality Assurance Manuals, and analytical SOPs.

The type/frequency of QC samples for vapor and condensate is specified in the current draft of the O&M Plan (included in Appendix F of the Draft RAWP). These frequencies are in accordance with the current version of the QAPP. Specifically, the following QC sample collection is included:

- \* Vapor emissions monitoring QA/QC sample collection will consist of the collection of field duplicates at a rate of one duplicate per 20 analytical samples submitted for analysis. (Section 6.4.4.1)
- \* QA/QC samples are not required for condensate monitoring sampling. (Section 6.4.4.2)

Because the necessary methods and information are already included in the current QAPP (Rev 9), no update or revisions to the QAPP are proposed.

Please let us know if this answers your questions or if there is additional information we might provide. We look forward to hearing what remaining comments the Agency may have on the Draft RAWP and to schedule a Construction Kick-off Meeting with the USEPA for OU3.

Sincerely,  
Bruce

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From: Granger, Michelle <[Granger.Michelle@epa.gov](mailto:Granger.Michelle@epa.gov)<<mailto:Granger.Michelle@epa.gov>>>  
Sent: Thursday, September 19, 2019 10:57 AM  
To: Bruce Scott Kennington <[bkennington@ramboll.com](mailto:bkennington@ramboll.com)<<mailto:bkennington@ramboll.com>>>  
Subject: Draft RAWP - Pohatcong OU3

Hi, Bruce-

Just following up from our phone conversation yesterday regarding the Draft RAWP.

In addition to the more detailed construction schedule (Figure 8), can you get me the following information in relation to Appendix F (O&M Plan) and Appendix D (FSP):

Much of the existing project QAPP (Rev 9) pertains to RD activities. The RAWP FSP discusses vapor/air and soil sampling. The O&M Plan includes guidance for sampling condensate, vapor, and hot soil and includes a field sampling schedule that details the method, frequency, and location of sample. What laboratories will be used to analyze the vapor and liquid samples collected from the above ground treatment system and what type/frequency of QC samples are planned for these samples? Also, please confirm no other updates to the existing QAPP are necessary to complete the

RA.

If you have any questions, feel free to contact me.

Best,

Michelle-

212-637-4975